SANYO

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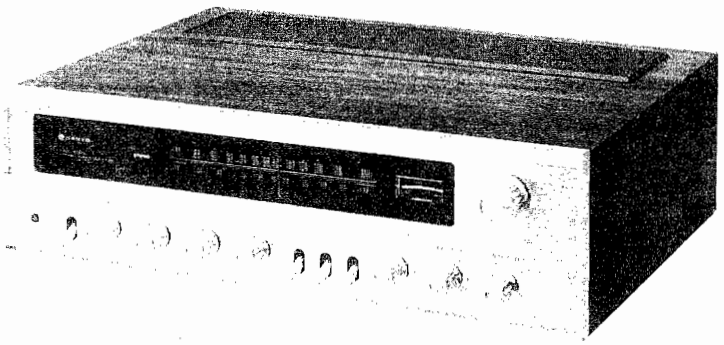
SANYO
STEREO RECEIVER
DCX 2500K
SERVICE MANUAL



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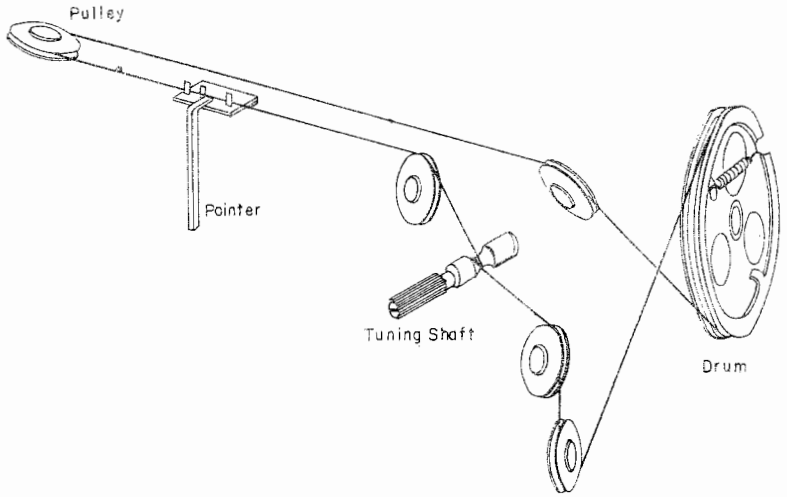
SPECIFICATIONS

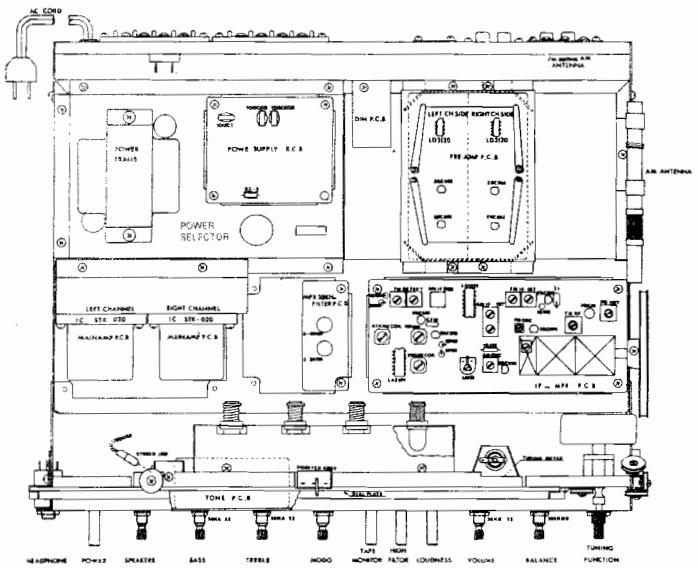
IC	LA-1201 x 1, LA-3301 x 1, LD-3120 x 2, STK-020 x 2
FET	2SK41 x 1 (2SK25)
Transistor	2SC668 x 2, 2SC929 x 1, 2SC693 x 5, 2SC930 x 2
Diode	1S188 x 7, SZ-9 x 1, 10DC05R x 1, 10DC05 x 1, 10DC1 x 1
Frequency range	AM 535 – 1,605 KHz FM 88 – 108MHz
Intermediate frequency	AM 455KHz (470KHz in UK) FM 10.7MHz
Sensitivity	AM 150μV/m (at S/N 20dB, 30% modulation) FM 25μV (IHF)

FM MPX separation	35dB (at 1,000Hz)
Output power	25W
Frequency response	30 – 30,000Hz ±3dB
Power band width	20 – 50,000Hz
Distortion	0.1% (1KHz, 1 Watt)
Tone controls	BASS 100Hz ±8dB TREBLE 10KHz ±8dB
Power source	AC 120.200.220.240V 50/60Hz
Power consumption	50W (AC120V, 60Hz)
Dimension	17-5/16"(W) x 14"(D) x 5"(H)
Weight	12 lbs

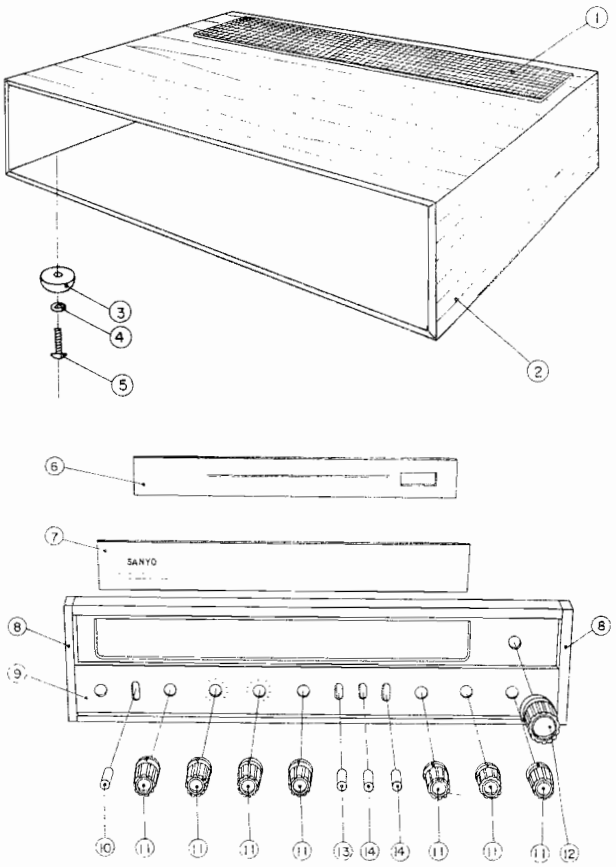
DIAL CORD STRINGING



PARTS LOCATION

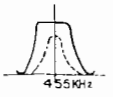


EXPLODED VIEW



ADJUSTMENT

AM ADJUSTMENT

Step	Adjusting circuit	Connections		SG. frequency	Position of tuning dial	Adjustment	V.T.V.M. Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to VC4.	Connect oscilloscope to test point TP2.	455 KHz 470KHz (in UK) (400Hz 30% modulation)	Near max. capacity of VC. at position with no unrequred signal.	AM 1st 9-20970 (Red, Blue) 9-20971 (in UK) AM 2nd 9-20980 (Non adj.)	
2	RF	Connect standard loop antenna to output terminals of SG. Place reciever 2 feet from loop antenna.	Connect V.T.V.M. to speaker terminals.	600 KHz (400Hz, 30% modulation)	600 KHz	AM ANT 9-20524 AM OSC 9-20700 (Red)	Max.
3				1400 KHz (400Hz, 30% modulation)	1400 KHz	TC4 TC5	Max.
4	Repeat adjustments.						

PREPARE

1. Variable capacitor completely closed.
2. Set the dial pointer to very left line dial scale.
3. Connect sweep generator. SG, V.T.V.M. and oscilloscope.
4. Function switch to "AM".
5. Use a screwdriver with plastic grip for all adjustments.

FM ADJUSTMENT

Step	Adjusting circuit	Connections		SG frequency	Position of tuning dial	Adjustment	V.T.V.M. Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to test point TP1 through 0.01μF.	Connect oscilloscope to test point TP3.	10.7 MHz (none modulation)	Near max. capacity of VC. at position with no unrequred signal.	FM 1st 9-20890 (Violet) 9-20900 (Orange) FM 2nd 9-20160 (Non adj.)	
2	Ratio Det.		Connect oscilloscope to test point TP4.			FM DET 9-20850 (Pink) 9-20860 (Blue)	
3	RF	Connect FM SG. to FM ANT. terminals.	Connect V.T.V.M. to speaker terminal.	90 MHz (400Hz, 30% modulation)	90 MHz	FM ANT 9-20990 FM OSC 9-20460 FM Coil 9-20270	Max.
4				106 MHz (400Hz, 30% modulation)	106 MHz	TC1 TC2 TC3	Max.
5	Repeat adjustments.						

PREPARE

1. Variable capacitor completely closed.
2. Set the dial pointer to very left line of dial scale.
3. Connect sweep generator, FM SG, V.T.V.M. and oscilloscope. FM antena input impedance is 300 ohm.
4. Function switch to "FM AUTO".
5. Use a screwdriver with plastic grip for all adjustments.

FM MPX ADJUSTMENT

Step	Adjusting circuit	Connections		Position of tuning dial	Adjustment	V.T.V.M.
		Input	Output			
1	SCA signal filter (67 KHz)	Add SCA signal to FM stereo SG. and connect to FM ANT. terminals. FM stereo signal OFF.	Connect V.T.V.M. to test point TP5.	Near max. capacity of VC. at position with no unrequred signal.	67KHz 9-20140 (Red)	Min.
2	38 KHz	Connect FM stereo SG to FM ANT terminals. 19KHz signal ON. Main channel, sub channel signal ON. Add 1000Hz signal from L Ch.	Connect V.T.V.M. to test point TP6.		38KHz 9-20210 (Black) 9-20220 (White)	Max.
3	FM stereo signal separation		Connect V.T.V.M. to R speaker terminal.			Min.
4		Connect FM stereo SG to FM ANT terminals. 19KHz signal ON. Main channel, sub channel signal ON. Add 1000Hz signal from R Ch.	Connect V.T.V.M. to L speaker terminal.		38KHz 9-20210 (Black)	Min.
5	Repeat steps 3 ~ 4. Set at position with max. channel separation.					

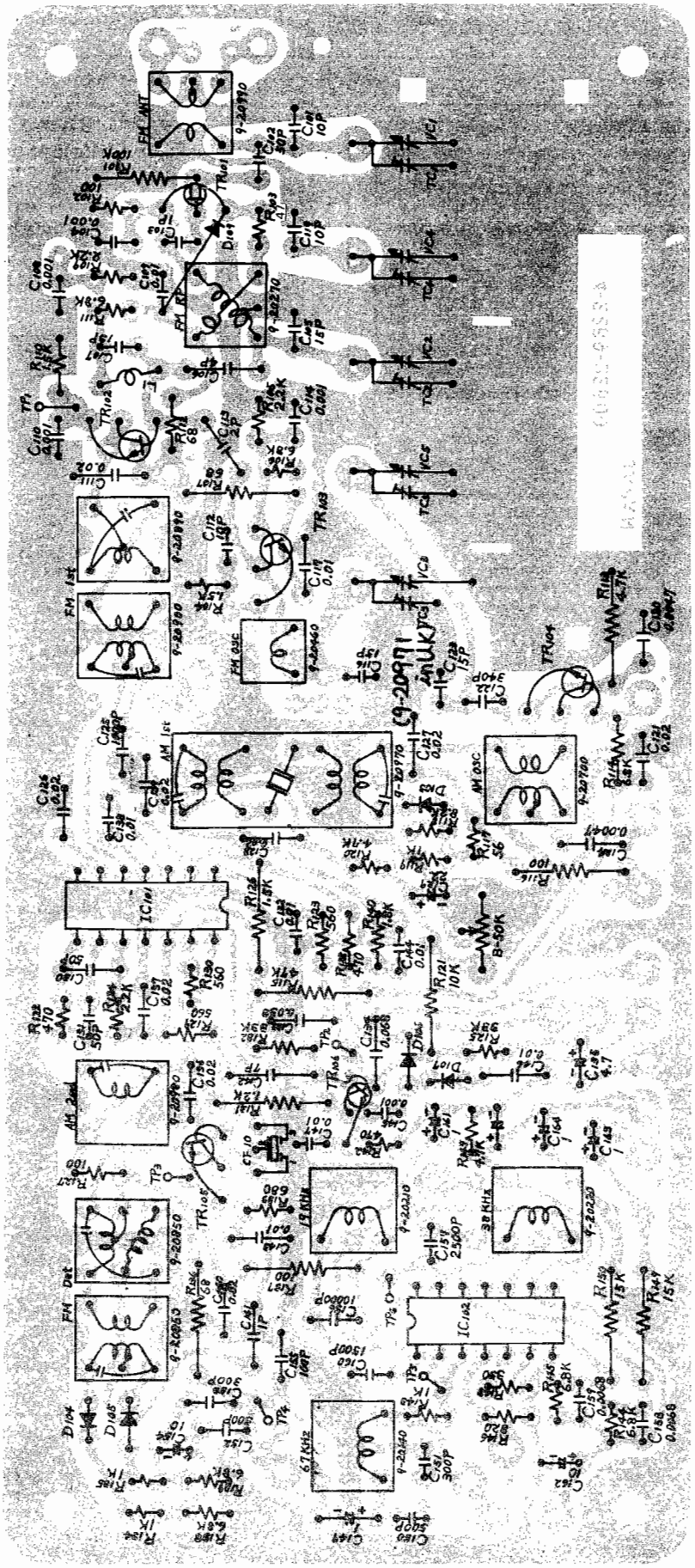
PREPARE

1. Variable capacitor completely closed.
2. Connect FM stereo SG. and V.T.V.M.
3. Function switch to "FM AUTO". Mode switch to "STEREO".
4. Use a screwdriver with plastic grip for all adjusments.

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
CABINET			
2	131 2 1101 19401	Cabinet (1312-1101-19402 in UN)	1
1	131 2 1312 10101	Grill	1
		Washer 3.2φx12φx1t	8
		Pan head tapping screw 3x8	8
3	131 2 1804 10401	Leg, Rubber	4
5		Pan head screw 4x20	6
4		Washer 4.2x12x1t	6
	131 0 1016 13102	Panel assy., Decorate	1
9	131 2 1203 20402	Panel, Control	1
8	131 2 1311 29801	Sash	2
7	131 2 6308 13402	Filter	1
	131 2 6113 11201	Shelter, Switch lever	4
12	131 0 1001 19101	Knob assy, Tuning	1
11	131 0 1001 19201	Knob assy	7
CHASSIS			
	131 2 3301 11620	Chassis	1
	131 2 3306 12910	Panel, Rear	1
		Pan head tapping screw 3x8	4
	131 2 6111 11300	Bushing, AC cord	1
	131 2 3617 11401	Metal mount, Trans	1
		Pan head tapping screw 3x8	7
	131 2 7103 13403	Label	1
	131 2 3603 12700	Metal mount, Antenna	1
		Pan head tapping screw 3x8	2
	131 2 3614 12600	Mount, Pre-Amp. P.C.B.	2
		Pan head tapping screw 3x8	2
	131 2 6103 12200	Cover, Shield, Pre-Amp P.C.B	1
		Pan hed tapping screw 3x8	2
	131 2 6201 17300	Plate, Heat sink	1
	131 2 3305 14000	Panel, Front	1
		Pan head tapping screw 3x8	6
	131 2 6110 15300	Shelter, Dial light	1
		Pan head tapping screw 3x8	4
	131 2 6306 10200	Reflector, Stereo ind.	1
		Pan head tapping screw 3x8	1
	131 2 6111 10000	Bushing	1
	131 2 6306 10300	Reflector, Tuning meter	1
	131 2 6111 10300	Bushing, Pilot lamp	1
	131 2 1406 10703	Plate, Tuning metal	1
	131 2 3101 12701	Metal, Tuning metal mount	1
	131 0 3003 13800	Shaft dial assy	1
		Pan head tapping screw 3x8	2
	131 2 4107 10300	Pulley	5
	131 2 4108 10300	Spindle, Pulley	5
6	131 2 1201 19801	Plate, Dial	1
	131 2 1406 10702	Plate, Color	1
	131 2 1406 10800	Plate, Color	1
	131 2 6110 14900	Shelter, Dial light	1
		Pan head tapping screw 3x8	2
	131 2 6110 15000	Shelter, Dial light	1
		Pan head tapping screw 3x8	2
	131 2 6110 15100	Shelter, Dial light	1
	131 0 3011 12200	Pointer assy	1
	131 2 5205 10200	Cushion	1
	131 2 3701 11300	Mount, Electric part	1
		Pan head tapping screw 3x8	2
	131 2 3701 11400	Mount, Electric Part	1
		Pan head tapping screw 3x8	2
	131 0 3002 10201	Drum assy	1
		Pan head screw 3x8	2
	131 2 4112 10200	Rope	1
	131 2 4214 10000	Eyelet	1
	131 2 4111 00200	Spring, Rope	1
	131 0 4001 23700	Printed circuit assy, Dial pilot	1
	4 2519 22550	Power trans	1
	4 2579 20524	Antenna coil, MW	1
	4 2229 22210	VR B-50K ohmx2, Volume	1
	4 2229 22200	VR MN-200K ohm, Balance	1
	4 2319 22410	Switch, Rotary, Mode	1
	4 2319 22460	Switch, Rotary, Function	1
	4 2319 22310	Switch, Rotary, Speaker	1
10	4 2319 22450	Switch, Lever, Power	1
14	4 2319 22331	Switch, Lever, Loudness, Hight filter	2
13	4 2319 22341	Switch, Lever, Tape nonitor	1
	4 2359 21080	Jack, Headphone	1
	4 2379 20020	Terminal, Ant 3P	1
	4 2359 21040	Socket, Phono 2P	4
	4 2359 20190	Socket, DIN	1

Ref. No. & Part No.	Description	Q'ty
CHASSIS		
4 5119 20210	Meter, Tuning	1
4 2379 20080	Speaker terminal	2
4 2359 20940	Socket, AC	1
4 2359 21110	Fuse holder. AC 120V	3
4 2359 21062	Fuse holder, 6.3V	1
4 2349 20030	Fuse, 2A	2
4 6129 20143	Pilot lamp, 6V 25mA stereo ind.	1
4 6129 20100	Pilot lamp, 6.3V 250mA Dial, tuning meter	5
131 0 4002 11600	PL socket, Tuning meter	1
4 2449 20260	Antenna, FM	1
4 2379 20110	Terminal lug 1P	1
4 2379 20490	Terminal lug 1PL	1
4 2379 20140	Terminal lug 1-2P	1
4 2539 20050	RF filter choke	2
4 2359 21220	Power selector (Socket)	1
4 2369 20550	Power selector (Plug)	1
4 2439 20390	Power cord	(1)
4 2369 20260	Plug conversion	(1)
4 2369 20270	Plug conversion	(1)
4 2369 20280	Plug photex	(1)
4 2369 20290	Plug 3P	(1)
4 2349 20210	Fuse 1.0A (120V)	1
4 2349 20100	Fuse 0.5A (200,220,240V)	1
	RESISTORS	
R701	Carbon R-type 1K ohm ±10% 1/4W	1
R702	Carbon R-type 1.2K ohm ±10% 1/4W	1
R705,706	Carbon R-type 5.6K ohm ±10% 1/4W	2
R703,704	Carbon R-type 22K ohm ±10% 1/4W	2
R707	Solid 2.2M ohm ±20% 1/2W	1
	CAPACITORS	
C701,702	Mylar 0.0015μF ±20% 50WV	2
C705,706	Mylar 0.01μF ±20% 50WV	2
C703,704	Mylar 0.068μF ±20% 50WV	2
C707	Oil 0.01μF ±20% 800WV	1
RF, IF, MPX P.C.B. ASSEMBLY		
131 0 4001 22104	Printed circuit assy (131 0 4001 22109 in UK)	1
4 2579 20990	Antenna coil, FM	1
4 2599 20270	RF coil, FM	1
4 2569 20460	Osc coil, FM	1
4 2569 20890	IF trans, FM 1st, Violet	1
4 2569 20900	IF trans, FM 1st, Green	1
4 2569 20850	IF trans, FM discri 1, Pink	1
4 2569 20860	IF trans, FM discri 2, Blue	1
4 2589 20700	Osc coil, AM, Red	1
4 2569 20970	IF trans, AM 1st, Red Blue (4 2569 20971 in UK)	1
4 2569 20980	IF trans, AM 2nd	1
4 2659 20140	MPX coil, SCA, Red	1
4 2659 20210	MPX coil, 19K Hz White	1
4 2659 20220	MPX coil 38K Hz, Black	1
4 2249 20450	Variable capacitor	1
4 2539 20130	IF trap	1
4 2229 21810	VR B-50K ohm, IC bias	1
4 2279 20160	Rescap	1
111 2 6220 11100	Wire wrap terminal	10
TR101	Transistor 2SK41 (2SK25)	1
TR102	Transistor 2SC668	1
TR104	Transistor 2SC929	1
TR103	Transistor 2SC668	1
TR105	Transistor 2SC930	1
TR106	Transistor 2SC930	1
IC101	IC LA1201	1
IC102	IC LA3301	1
D103,105,106,107	Diode 1S188-FM1	5
D104	Diode DS-410 (exc. UK)	1
	RESISTORS	
R103	Carbon ELR type 82 ohm ±10% 1/4W (47ohm in UK)	1
R117	Carbon ELR type 56 ohm ±10% 1/4W	1
R107	Carbon ELR type 68 ohm ±10% 1/4W	1
R102,127	Carbon ELR type 100 ohm ±10% 1/4W	2
R148	Carbon ELR type 330 ohm ±10% 1/4W	1
R122,128,142	Carbon ELR type 470 ohm ±10% 1/4W	3
R123,129,130	Carbon ELR type 560 ohm ±10% 1/4W	3
R133	Carbon ELR type 680 ohm ±10% 1/4W	1
R146	Carbon ELR type 820 ohm ±10% 1/4W	1
R119,134,135,143	Carbon ELR type 1K ohm ±10% 1/4W	4
R104,110	Carbon ELR type 1.5K ohm ±10% 1/4W	2
R140	Carbon ELR type 1.8K ohm ±10% 1/4W	1
R105,109,124	Carbon ELR type 2.2K ohm ±10% 1/4W	3
R120,147	Carbon ELR type 4.7K ohm ±10% 1/4W	2



IC_{101} LA1201 IC_{102} LA3301

TR_{101} 2SK41 $TR_{102,103}$ 2SC668 TR_{104} 2SC929 $TR_{105,106}$ 2SC930 $D_{103,104,105,106,107}$ 1S188

PARTS LIST

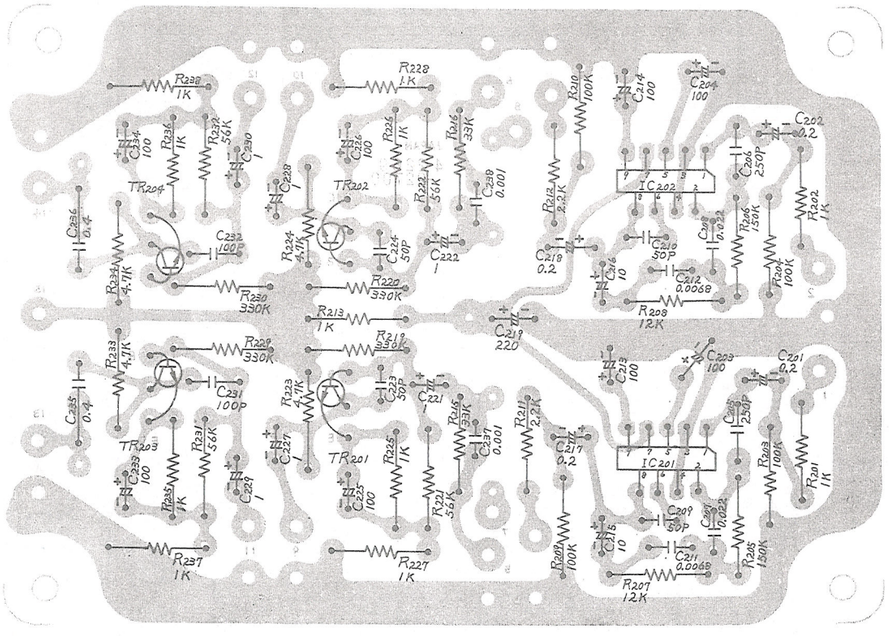
Ref. No. & Part No.	Description	Q'ty
RF, IF, MPX P.C.B. ASSEMBLY		
	RESISTORS	
R106,111,114 138,139 144,145	Carbon ELR type 6.8K ohm ±10% 1/4W	7
R118	Carbon ELR type 8.2K ohm ±10% 1/4W	1
R132	Carbon ELR type 33K ohm ±10% 1/4W	1
R125	Carbon ELR type 3.3K ohm ±10% 1/4W	1
R112,136	Carbon R type 68 ohm ±10% 1/4W	2
R116,137	Carbon R type 100 ohm ±10% 1/4W	2
R131	Carbon R type 1.2K ohm ±10% 1/4W	1
R126	Carbon R type 1.5K ohm ±10% 1/4W	1
R113	Carbon R type 4.7K ohm ±10% 1/4W	1
R121	Carbon R type 10K ohm ±10% 1/4W	1
R149,150	Carbon R type 15K ohm ±10% 1/4W	2
R115	Carbon R type 47K ohm ±10% 1/4W	1
R101	Carbon R type 100K ohm ±10% 1/4W	1
	CAPACITORS	
C103,141	Ceramic 1pF ±0.25pF 50WV	2
C113	Ceramic 2pF ±0.25pF 50WV	1
C106	Ceramic 4pF ±0.25pF 50WV	1
C142	Ceramic 7pF ±0.25pF 50WV	1
C119,101	Ceramic 10pF ±5% 50WV	2
C112	Ceramic 10pF ±5% 50WV	1
C107	Ceramic 13pF ±5% 50WV	1
C116	Ceramic 15pF ±5% 50WV	1
C123	Ceramic 15pF ±5% 50WV	1
C105	Ceramic 15pF ±10% 50WV	1
C102,130,131	Ceramic 50pF ±10% 50WV	3
C155	Ceramic 100pF ±10% 50WV	1
C152,153	Ceramic 300pF ±10% 50WV	2
C104,110,114,108 145	Ceramic 0.001μF −20～+80% 25WV	5
C109,138,143,144 146,147	Ceramic 0.01μF −20～+80% 25WV	6
C111,121,126,127,128, 136,137,139,140	Ceramic 0.02μF −20～+80% 25WV	9
C151	Styrol 300pF ±10% 35WV	1
C122	Styrol 340pF ±5% 35WV	1
C150	Styrol 500pF ±5% 35WV	1
C125	Styrol 1000pF ±5% 35WV	1
C160	Styrol 1500pF ±5% 35WV	1
C157	Styrol 2500pF ±5% 35WV	1
C156	Styrol 10000pF ±5% 35WV	1
C117	Ceramic 0.01μF −20～+80% 25WV	1
C120,124	Mylar 0.0047μF ±20% 50WV	2
C132	Mylar 0.01μF ±20% 50WV	1
C134	Mylar 0.068μF ±20% 50WV	1
C133	Mylar 0.033μF ±20% 50WV	1
C158,159	Mylar 0.0068μF ±20% 50WV	2
C149,163,164,161	Electrolytic 1μF −10～+150% 10WV	4
C154,162	Electrolytic 10μF −10～+150% 10WV	2
C135	Electrolytic 4.7μF −10～+150% 10WV	1
C129	Electrolytic 22μF −10～+150% 10WV	1
PRE AMP P.C.B ASSEMBLY		
131 0 4001 22201	Printed circuit assy	1
TR201,202,203,204	Transistor 2SC693	4
IC201,202	IC LD3120	2
	RESISTORS	
R237,238,201,202,213, 225,226,227,228,235, 236	Carbon R-type 1K ohm ±10% 1/4W	11
R211,212	Carbon R-type 2.2K ohm ±10% 1/4W	2
R207,208	Carbon R-type 12K ohm ±10% 1/4W	2
R215,216	Carbon R-type 33K ohm ±10% 1/4W	2
R223,224,233,234	Carbon R-typr 4.7K ohm ±10% 1/4W	4
R221,222,231,232	Carbon R-type 56K ohm ±10% 1/4W	4
R205,206	Carbon R-type 150K ohm ±10% 1/4W	2
R203,204,209,210	Carbon R-type 100K ohm ±10% 1/4W	4
R219,220,229,230	Carbon R-typr 330K ohm ±10% 1/4W	4
	CAPACITORS	
C201,202,217,218, C221,222,227,229, 230,228	Alsicon 0.2μF ±20% 15WV Alsicon 1μF ±20% 15WV	4 6

Ref. No. & Part No.	Description	Q'ty
PRE AMP P.C.B ASSEMBLY		
	CAPACITORS	
C211,212	Mylar 0.0068μF ±10% 50WV	2
C207,208	Mylar 0.022μF ±10% 50WV	2
C235,236	Mylar 0.4μF ±20% 50WV	2
C237,238	Mylar 0.001μF ±20% 50WV	2
C209,210,223,224	Ceramic 50pF ±10% 50WV	4
C231,232	Ceramic 100pF ±10% 50WV	2
C205,206	Ceramic 250pF ±10% 50WV	2
C215,216	Electrolytic 10μF 10WV	2
C213,214,225,226, 233,234	Electrolytic 100μF 3WV	6
C203,204	Electrolytic 100μF 10WV	2
C219	Electrolytic 220μF 25WV	1
TONE P.C.B. ASSEMBLY		
131 0 4001 22400	Printed circuit assy	1
4 2229 22220	VR A-50K ohmx2	2
	RESISTORS	
R308	Carbon ELR-type 4.7K ohm ±10% 1/4W	1
R306	Carbon ELR-type 33K ohm ±10% 1/4W	1
R303,304	Carbon R-type 1.5K ohm ±10% 1/4W	2
R301,302,307	Carbon R-type 4.7K ohm ±10% 1/4W	3
R305	Carbon R-type 33K ohm ±10% 1/4W	1
	CAPACITORS	
C301,302	Mylar 0.003μF ±10% 50WV	2
C303,304	Mylar 0.03μF ±10% 50WV	2
C305,306	Mylar 0.033μF ±10% 50WV	2
C307,308	Mylar 0.22μF ±10% 50WV	2
DIN P.C.B. ASSEMBLY		
131 0 4001 18803	Printed circuit assy	1
	RESISTORS	
R401,402	Carbon R-type 82K ohm ±10% 1/4W	2
R403,404	Carbon R-type 100K ohm ±10% 1/4W	2
MAIN AMP. P.C.B. ASSEMBLY		
131 0 4001 22301	Printed circuit assy	2
IC501	IC STK-020	2
D501	Diode 1S188	2
	RESISTORS	
R505	Carbon R-type 100ohm ±10% 1/4W	2
R504	Carbon R-type 4.7 ohm ±10% 1/4W	2
R502	Carbon R-type 33 ohm ±10% 1/4W	2
R503	Carbon R-type 220 ohm ±10% 1/4W	2
R501	Carbon R-type 680 ohm ±10% 1/4W	2
	CAPACITORS	
C508	Ceramic 0.04μF −20～+80% 50WV	2
C507	Mylar 0.047μF ±20% 50WV	2
C506	Mylar 0.15μF ±20% 50WV	2
C501,505	Electrolytic 1μF −10～+150% 25WV	4
C503	Electrolytic 10μF −10～+150% 16WV	2
C502	Electrolytic 100μF −10～+150% 16WV	2
C504	Electrolytic 470μF −10～+150% 25WV	2
POWER SUPPLY P.C.B. ASSEMBLY		
131 0 4001 20301	Printed circuit assy	1
D601	Diode SZ-9	1
D602	Diode 10DC05	1
D603	Diode 10DC05R	1
D604	Diode 10DC1	1

PARTS LIST

Ref. No. & Part No.	Description		Q'ty
POWER SUPPLY P.C.B. ASSEMBLY			
	RESISTORS		
R604	Carbon R-type 330 ohm	±10% 1/4W	1
R603	Carbon R-type 470 ohm	±10% 1/4W	1
R601,605	Metal oxide film 220 ohm	±10% 1W	2
R602	Metal oxide film 330 ohm	±10% 1W	1
R606	Metal oxide film 470 ohm	±10% 2W	1
	CAPACITORS		
C608,609,610,611	Ceramic 0.01μF	−20 ~ +80% 250WV	4
C601	Electrolytic 470μF	−10 ~ +150% 16WV	1
C602,603	Electrolytic 470μF	−10 ~ +150% 25WV	2
C604	Electrolytic 470μF	−10 ~ +150% 35WV	1
C606,607	Electrolytic 1000μF	−10 ~ +150% 25WV	2
C605	Electrolytic 1000μF	−10 ~ +150% 35WV	1

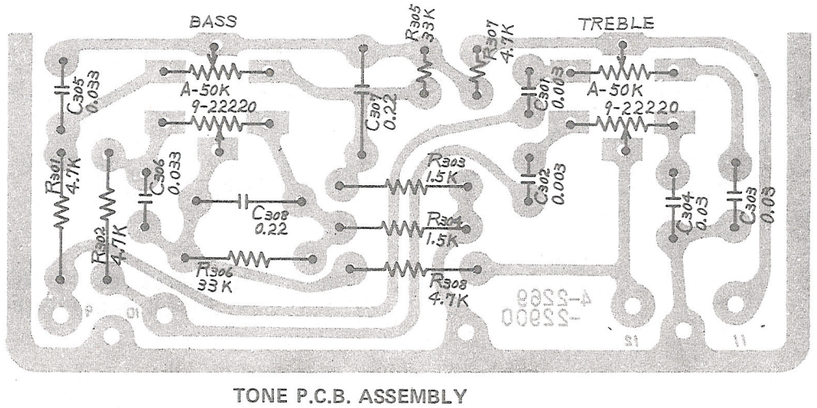
Ref. No. & Part No.	Description		Q'ty
MPX., 38KHz FILTER P.C.B. ASSEMBLY			
131 0 4001 22500	Printed circuit assy		1
4 2659 20190	Multiplex coil SCA		2
	CAPACITORS		
C801,802,805,806	Ceramic 0.001μF	±20% 50WV	4
C803,804	Mylar 0.0015μF	±10% 50WV	2



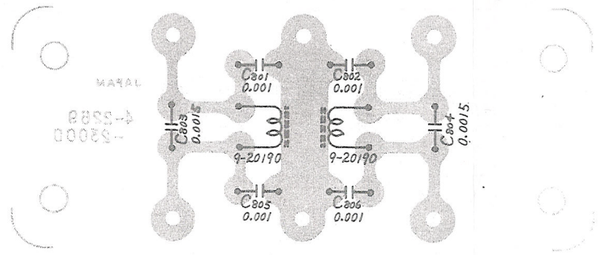
TR201,202,
203,204
2SC693

IC201,202
LD 3120

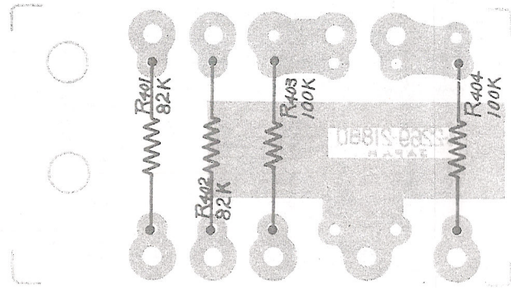
PRE AMP P.C.B. ASSEMBLY



TONE P.C.B. ASSEMBLY

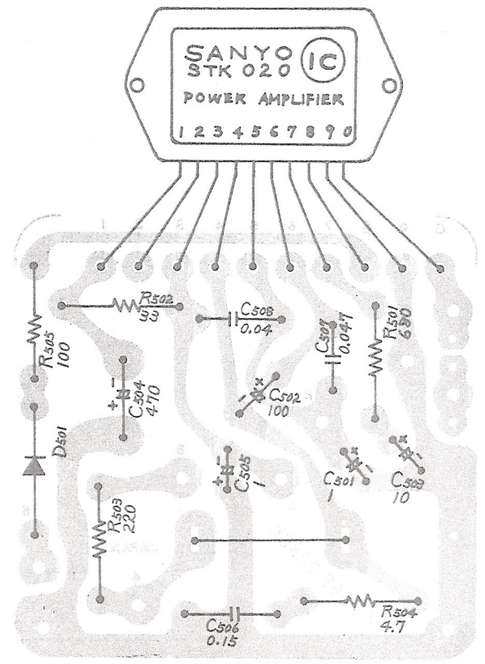


MPX., 38KHz FILTER P.C.B. ASSEMBLY

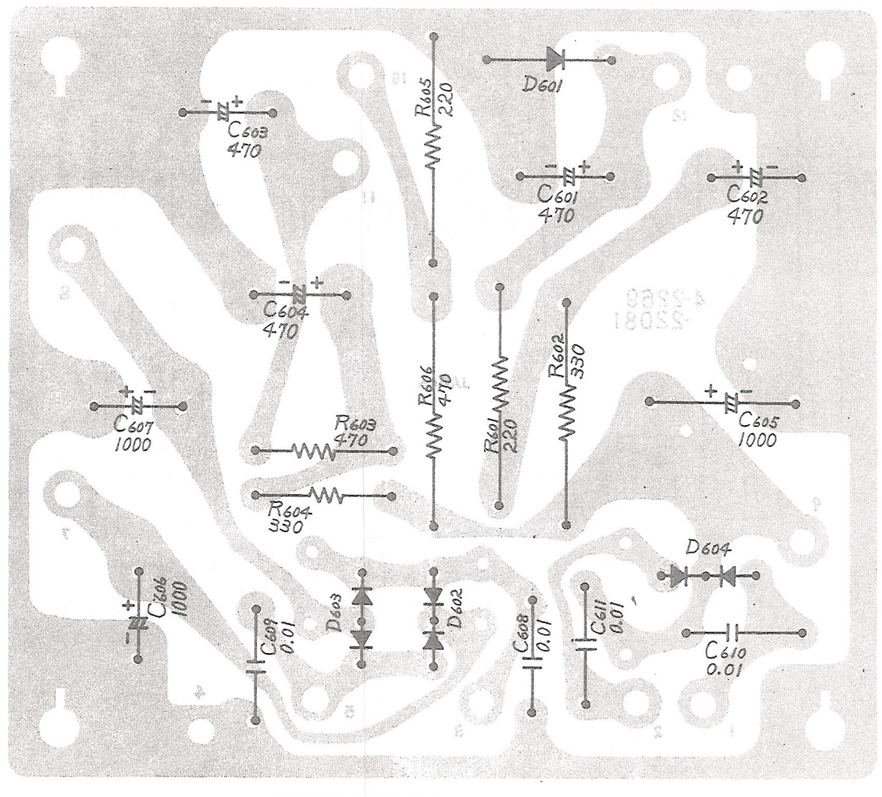


DIN P.C.B. ASSEMBLY

IC501 STK020 D501 1S188



MAIN AMP. P.C.B. ASSEMBLY



D601
SZ-9

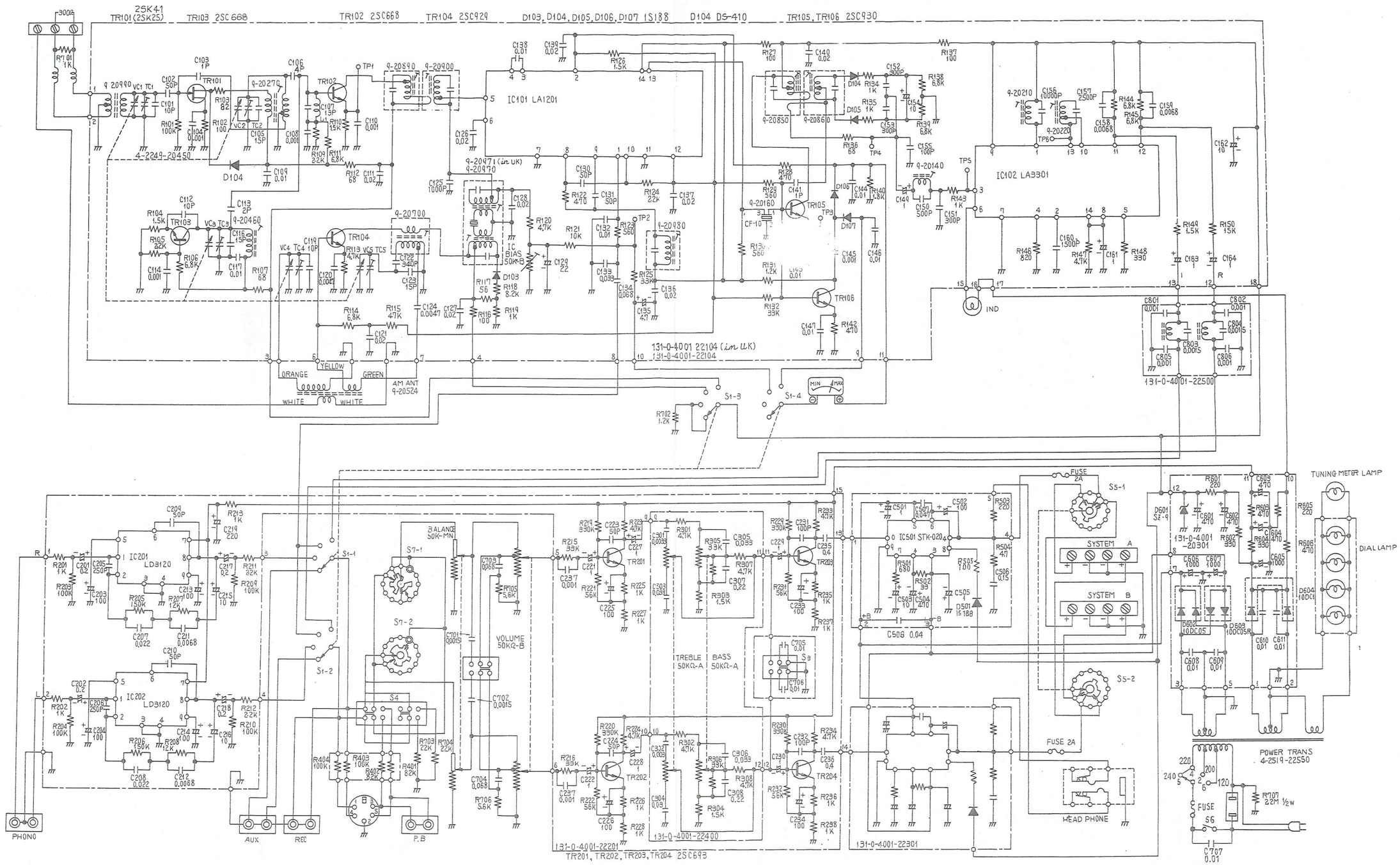
D602
10DC0E

D603
10DC0E

D604
10DC1

POWER SUPPLY P.C.B. ASSEMBLY

SCHEMATIC DIAGRAM



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